

REMARKS

Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

Claims 1-6 and 13-15 are now pending. Claims 1 and 13 are amended. Claims 7-12 and 16-17 have been canceled. No new matter is introduced by way of these amendments.

The Examiner notes that the trademark TEFLON should be capitalized. Applicant has made the appropriate corrections in the specification.

Claims 8-12 and 16 are rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement. Without assenting to the Examiner's position and in the interest of expediting the prosecution, Applicant has canceled claims 8-12 and 16. The rejection is therefore rendered moot.

The Examiner further rejects claim 17 under 35 U.S.C. 102(b) as being anticipated by WO/94/09074. Without assenting to the Examiner's position and in the interest of expediting the prosecution, Applicant has canceled claim 17. The rejection is therefore rendered moot.

Claims 1-16 are further rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,133,516 to Marentic *et al.* (hereafter "Marentic") in view of WO 94/09074 (hereafter "Smirnov"). Applicant respectfully disagrees and traverses the rejection. The present invention is directed to a rotor blade having a water repellent surface structure that has a plurality of nano-nails. These nano-nails provide a degree of unevenness and surface irregularity and repel water by keeping them from being attracted to each other or to the surface. This feature is not disclosed or suggested by Marentic. As shown in Figure 1 of Marentic, he teaches a plurality of projections are parallel peaks and valleys, see col. 5, lines 2-5 and 29-50. These channel-like features of Marentic's "patterned surface" are key to reducing the drag caused by fluid flowing across a surface. By channeling the fluid flow down these regularly spaced parallel valleys, maximum reduction in drag can be achieved, see, for example, col. 5, lines 1-5. Namely, Marentic teaches channels with a ridge and valley adjacent each other and

extended lengthwise in the direction of flow. These are not nails, and are not nano-nails. Starting in col. 5, lines 51-59, Marentic discusses that the pattern can be a "discontinuous pattern of peaks and valleys." It further states that "the peaks and valleys may terminate for a portion of the article." This is not shown in any figure of Marentic et al. In any event, this is not a description of a nano-nail. Marentic contemplates in the entire disclosure that peaks and valleys be present. There is no suggestion of a nail. The word "nail" means a stand-alone vertical structure. In the present invention, nano-nails are claimed, namely nails of a very small size, such as sub-microns or nanometers in dimension. The nano-nails are free-standing all around. There is not a peak and valley structure as taught in Marentic. The repeated references in Marentic to valley and peak teach away from a nail structure. His teaching is quite different from a nail surface and does not suggest anything related to nails at all. The deficiency of Marentic is not cured by the disclosure of Smirnov. Smirnov discloses a surface coating material having fine hydrophobic powders. The coating material is water-repellent through its chemical characteristics (i.e., hydrophobicity), not through surface irregularities, see, page 4, lines 23-26. Quite to the contrary, Smirnov endeavors for its surface features to be as uniform as possible. On page 7, lines 8-15, it is disclosed that the hydrophobic powders are to be mixed with silicon oil to ensure that the surface coating is "uniform and continuous". In conclusion, Marentic, either alone or in combination with Smirnov, fail to disclose or suggest a surface coating having nano nails or nano scale-surface irregularity, as recited in claim 1-6 and 13-15. Accordingly, Applicant respectfully requests that this ground of rejection be withdrawn.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

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All of the claims remaining in the application are now clearly allowable.  
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,  
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